

REMARKS/ARGUMENT

Claims 1-3, 5-21, and 23-26 are pending after entry of the present amendment.

Applicant acknowledges that prosecution has been reopened in view of Applicant's Appeal Brief filed on April 26, 2004. Applicant further acknowledges that reinstatement of the appeal is an option in response to the reopened prosecution. However, new grounds for rejection have been asserted, and Applicant therefore elects to reply to the new grounds for rejection.

Rejections under 35 USC §102

Claims 1, 6-7, 9-11, 14, 16-17, 19, and 24-25 were rejected under 35 U.S.C. §102(b) as being anticipated by Keele et al. (U.S. Patent No. 5,438,674). The rejection of these claims is respectfully traversed, and Applicant requests reconsideration.

In order for a reference to anticipate a claim, each and every element as set forth in the claim must be found in the reference, either expressly or inherently described. MPEP 2131. The fact that words or phrases may be common to the reference and a claim is not enough. Each and every element must be found, and each and every element must be found as set forth in the claim. Applicant respectfully submits that Keele et al. do not anticipate Applicant's independent claims 1, 9, or 19.

Applicant's independent claim 1 claims a method for processing data to be recorded on an optical disc. The method includes examining a set of files selected to be recorded on the optical disc, and creating a record data structure for each file in the set of files to be recorded on the optical disc. Then, a set of pointers is generated to associate the record data structures with a writing order. The set of pointers defines a dynamically sequenced list of record data structures. The method next provides for processing each of the record data structures one after another in the writing order according to the dynamically sequenced list of record data structures. The processing of the record data structures produces ordering data structures for each file in the set of files. The ordering data structures are a record of pointers to a source data file, with each file in the set of files having a corresponding ordering data structure. The method then provides for processing the ordering data structures to write the set of files onto

the optical disc in the writing order. The source data file is defined as a data file in the set of files at a source location from which it is read to be recorded on the optical disc.

In independent claim 9, Applicant claims a method for recording data onto an optical disc. The method provides for generating a set of pointers to associate record data structures with a writing order. The set of pointers defines a dynamically ordered list of record data structures. The method also includes processing each of the record data structures one after another in the writing order to produce an ordering data structure for each file in a set of files to be recorded onto the optical disc. Each ordering data structure is a record of pointers to a source of data for recording onto the optical disc. Next, the method provides for processing each ordering data structure to write the set of files onto the optical disc in the writing order defined by the dynamically ordered list of record data structures.

In independent claim 19, Applicant claims a computer readable media having program instructions for recording data onto an optical disc. The computer readable media includes program instructions for examining a set of files selected to be recorded on the optical disc, and for creating a record data structure for each file in the set of files to be recorded on the optical disc. The computer readable media further includes program instructions for generating a set of pointers to associate record data structures with a writing order. The set of pointers defines a dynamically sequenced list of record data structures, and the writing order is a sequence in which each file in the set of files is to be recorded onto the optical disc. Additionally, the computer readable media includes program instructions for processing each of the record data structures, one after another and in the in the writing order according to the dynamically sequenced list to produce an ordering data structure for each file in a set of files. The ordering data structure has a pointer to a source location of a corresponding data file. Finally, the computer readable media includes program instructions for processing each ordering data structure to write the set of files onto the optical disc in the writing order.

The Office asserts that Keele et al. teaches each and every element of Applicant's independent claims 1, 9, and 19, and provides citations to four sections of the Keele et al. reference to support the assertion. The Office cites col. 18, lines 45-67, col. 42, lines 52-67, col. 43, lines 15-53, and col. 43, lines 10-67 (overlapping with col. 43, lines 15-53). The Office therefore asserts that the four cited sections of Keele et al. teach each and every

element as set forth in Applicant's independent claims 1, 9, and 19, either expressly or inherently described. Applicant respectfully disagrees and requests reconsideration.

In order to anticipate each of Applicant's independent claims 1, 9, and 19, Keele et al. would have to teach, for example, a record data structure. Further, Keele et al. would have to teach ordering data structures, and would have to teach generating a set of pointers to associate the record data structures with a writing order, the set of pointers defining a dynamically sequenced list of record data structures.

As defined by Applicant in the specification as filed, a record data structure is a data structure containing a record of identifying information about a file selected for recording to enable the writing of the file to the destination optical media (page 9, lines 11-15). Data fields in the record data structure include such information about the data file to be recorded as the file parent, the volume label index, the file size, the logical block number, the file time, the file source path, file attributes, data mode, whether or not the file is on removable media, any embedded subheader that may exist, and whether or not the file is imported (page 9, line 16-page 11, line 5, Fig. 2B). An ordering data structure is a record of pointers to the source data file, generated in the order in which the selected files will be written to the destination optical media, and include pointers for fields including a file source path, a file start offset, a file end offset, and a file pad to size. This minimum sized data structure is created by the host system for each file to be recorded, and in the recording order the selected files will be written to the destination optical media (page 12, line 19-page 14, line 8).

As is generally known, a data structure is an organization of information, usually in memory, for better algorithm efficiency. In independent claims 1, 9, and 19, Applicant has claimed at least two specific data structures: a record data structure and an ordering data structure.

The Office has asserted that a record data structure is disclosed by Keele et al. at col. 18, lines 45-67, and at col. 42, lines 52-67. The cited section at col. 18 recites:

MOST records a collection of virtual tapes on optical disks. The emulation process stores "virtual tapes" on the optical disks. Retrieval of virtual tapes is faster than the retrieval of 3480 cartridges because of the robotic access to the disk library. Each disk cartridge can be visually identified by a disk number label on the edge of the cartridge. MOST maintains a volume and serial number directory on the optical disk of

all of the virtual tapes recorded on the optical disk. Thus, each disk is self contained. The disk may contain one or many virtual tapes on each of its sides.

Each virtual tape has a Volume & Serial Number (VSN), a length, and a pointer to its tape map, which defines the structure and contains access control information for each data record. Each virtual tape has a volume and serial number according to IBM convention. Mount messages sent by the host computer to MOST are automatically interpreted and acted upon. If the requested virtual tape resides on a disk currently loaded in the optical disk drive, the virtual tape will be mounted through the action of the MOST controller. If the requested virtual tape resides on a disk which is not currently loaded in the optical disk drive, the disk will be retrieved through the robotics of the media handler.

The cited section at col. 42 recites:

The tape directory 318 comprises an ID Byte 322, tape data 324a, 324b through 324c for each virtual tape, and a continuation byte pointer 326. Each virtual tape has respective tape data 324 comprising ID bytes 328, volume serial number (VSN) 330, sector count 332, tape map pointer 334, tape length 336, and a pool type/write protect indicator 338. The tape directory 318 contains an alphabetized list of all virtual tapes 324a to 324b that are on one side of an optical disk 20. Like the Disk ID 300, the last tape directory 318 written is the only valid tape directory. Unlike the Disk ID 300, the only limit to the number of times that the tape directory 318 can be rewritten is the space remaining on the optical disk 20.

Applicant respectfully submits that no part of the above cited sections teaches or suggests *any* data structure, and does not teach or suggest a record data structure or an ordering data structure as claimed by Applicant. The reference, and specifically the cited sections, teach the recording and organization of virtual tapes on optical disc by the Mainframe Optical Storage Transport (MOST) system. While the reference does teach the structure of specific data on optical media, that is, the manner in which data is structured, organized, or arranged on the optical media, the reference *does not* teach or suggest the processing of data prior to and during the recording to the optical media. The reference does not teach or suggest the mechanics of specific processing of the selected data in order to effect the recording of the selected data to the optical media.

Applicant has claimed an ordering data structure and a record data structure. Applicant has therefore claimed a unitary organization of information, usually in memory, for better algorithm efficiency, the algorithms defining specific records or files and defining an order, specifically a writing order for the specific records of files. Although the cited sections contain the words “data,” “structure,” and “record,” this in no way teaches or suggests a “record data structure” as claimed by Applicant. Specifically, the cited sections teach that “each virtual tape has a Volume & Serial Number (VSN), a length, and a pointer to its tape map, which defines the **structure** and contains access control information for each **data record.**” This is describing the “structure” of the virtual tape, and that the tape map contains access control information for each “data record.” This has nothing to do with, and certainly does not teach or suggest anything about algorithms, algorithm efficiency, or as claimed by Applicant, record data structures.

Applicant further submits that the reference does not teach or suggest generating a set of pointers to associate the record data structures with a writing order, as claimed in independent claims 1, 9, and 19. In addition to the fact that the reference fails to teach or suggest any data structure, and certainly not a record data structure, the reference fails to teach or suggest pointers that are associated with a writing order. According to the office, the relevant section of the reference is col. 43, lines 15-53. The cited section states:

The tape map pointer 334 points to a respective tape map 348 of each virtual tape. The tape map 348 comprises ID bytes 342, sector count 344, VSN 346 and map data 348a, 348b through 348c each of which comprises a type identifier 350, accumulative length 352, block length 354, record pointer 356 and record offset 358 for each user record 362 on the tape. The tape map 348 provides the functions of BOT, EOT, IBG and TM. The record pointer 356 plus the offset 360 which is specified by the Byte offset 358 determines where the individual user records 362 are stored on the disk 20.

When a virtual tape VSN is mounted a copy of the tape map 340 is read into the controller 14. Subsequent tape motion commands do not require access to the disk, for example, a forward space file command is handled in the controller 14 by consulting the stored copy of the tape map 340 and making the necessary pointer adjustments at high speed. The tape map 340 points to each data record 362 through respective map data 348. In order to conserve media, a record 362 need not start on a sector boundary. The record pointer 356 requires only the record

offset 358 to locate the data record 366. A data record 362 is held in the controller 14 until a sector is full or a tape motion command is issued. Holding user data 362 in the controller 14 achieves the data rates of the Ld1200 optical disk drive 20.

A 3480 cartridge tape records data in user records 362. Sets of records 362 are separated into files by tape marks. Each record 362 and tape mark is assigned a sequential Block ID by virtue of its sequential order in the tape map 340. The first record or tape mark on a tape is assigned Block ID one, then two, then three etc. Mainframe commands (CCWs) are available to cause the 3480 to move the tape forward and backward one record, one tape mark or to a specific block. MOST 10 emulates these functions through the use of the tape map 340. Each virtual tape has a respective tape map 340.

The cited section teaches the use of pointers to locate and access user data, also called data records, on the virtual tape. The system taught by the reference teaches the use of optical media to emulate the older, larger, slower, tape systems used to store large volumes of data. The cited section describes the tape map which is written to the optical media, and which is accessed by and read into the controller when a virtual tape volume is mounted. The tape map uses pointers to precisely locate data in user records, also called data records, which need not be written at the start of a sector boundary, and therefore offset is included in the tape map. The reference does not teach the management and processing of data in preparation for and during the recording to a target optical media. That is, the reference does not teach the use of data structures, specifically a record data structure and an ordering data structure to process data and enable the CD recording engine to record the data to a target optical media. Nothing in the cited section teaches or suggests a writing order as claimed by Applicant. Nothing in the cited section teaches or suggests the determination of an order in which selected files are to be written to a target optical media, or the dynamic sequencing of record data structures to define a writing order. The above cited and reproduced section of the reference teaches arrangement of data on an optical media, and a method of accessing that data using a tape map. Applicant is not claiming a method of accessing data already recorded to an optical media. Applicant is claiming a method of processing data selected to be recorded to an optical media.

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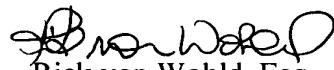
For at least the above reasons, Keele et al. do not anticipate Applicant's independent claims 1, 9, or 19. Likewise, Keele et al. do not teach each and every element of Applicant dependent claims 6-7, 10-11, 14, 16-17, and 24-25, each of which depend directly or indirectly from one of independent claims 1, 9, or 19. Keele et al. therefore do not anticipate claims 1, 6-7, 9-11, 14, 16-17, 19, and 24-25, and Applicant respectfully requests reconsideration, and that the §102 rejections of the claims as being anticipated by Keele et al. be withdrawn.

Allowable subject matter

Applicant acknowledges that claims 2-5, 8, 12-13, 15, 18, 20-23 and 26 were objected to as being dependent upon a rejected base claim, and the Office has indicated that they would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicant respectfully submits that the base claims are in fact patentable as described above, and therefore the claims objected to are likewise patentable.

In view of the foregoing, Applicant respectfully requests reconsideration of claims 1-3, 5-21, and 23-26. Applicant submits that all claims are in condition for allowance. Accordingly, a notice of allowance is respectfully requested. If Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact the undersigned at (408) 749-6900, ext. 6905. If any additional fees are due in connection with filing this amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. ROXIP120). A copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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